



ADSL WIRE SPEED PRO 36R570 PROXY ROUTER

INSTALLATION AND USER GUIDE



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ADSL WIRESPEED PRO™ PROXY ROUTER USER GUIDE

WIRESPEED PRO™ PROXY ROUTER OVERVIEW



WireSpeed Pro is the perfect solution for a low cost multi-user residential or small business network. Westell's WireSpeed Pro provides multiple users with reliable, high-speed, Internet access for home or office. With Westell's WireSpeed Pro, you won't need additional phone or data lines. The WireSpeed Pro converts an existing phone line into a dedicated, high-speed connection ending the inconvenience of dial-up modems and busy signals. Unlike traditional analog modems, multiple users can share the same phone line for simultaneous voice/fax communications and high-speed Internet access. WireSpeed Pro's downstream data rates of 8 Mbps and upstream rates of 800 kbps, may be up to 140 times faster than a 56K analog modem.

With WireSpeed Pro, you'll never be out of date. WireSpeed Pro is factory-configured with Westell's popular WebShare networking software. Our latest generation of WebShare software implements new features like an integrated firewall and VPN support. With easy downloads from Westell's WebStore, you'll be able to upgrade your WebShare software to take advantage of the latest innovations and features from Westell.

The WireSpeed Pro uses the widely popular Point to Point Protocols (PPPoA and PPPoE) to connect to your Internet service provider (ISP). LAN network setup is a breeze with Network Address Translation (NAT) and Dynamic Host Control Protocol (DHCP). With NAT, the Internet sees your Westell WireSpeed Pro as a single IP address. This hides the IP addresses of the PCs on the LAN from the Internet and provides a simple form of network security. With DHCP, WireSpeed Pro automatically assigns an IP address to each PC on the network, removing the chore of local IP address management.

WireSpeed Pro Proxy Router Benefits

- Up to 253 users can share a single Internet connection
- No need to tie up a PC to serve as a router
- No need to pay for multiple IP addresses
- No need to load Point to Point Protocol (WebShare) on each of the networked PCs
- Retains the IP addresses of your existing LAN

Minimum System Requirements

The following requirements outline the minimum system for WebShare:

- Pentium 166 MHz processor or equivalent
- Microsoft Windows 98, Windows Millennium, Windows 2000, or Windows NT 4.0
- Internet Explorer 4.x or Netscape Navigator 4.x installed
- At least 16 MB RAM
- 5 MB of free hard drive space
- Ethernet connection between upgrading PC and ADSL modem
- TCP/IP protocol stack installed
- Multi-port Ethernet 10Base-T hub (for multiple users)
- VGA monitor
- Cross over Ethernet cable for modem to Ethernet hub
- VPI/VCI values (provided by your service provider)
- PPPoA/PPPoE support (provided by your service provider)

ADSL Signal Filtering

ADSL signals must be blocked from reaching each telephone, answering machine, fax machine, conventional computer mode or any similar conventional devices. Failure to do so may degrade telephone voice quality and ADSL performance. There are two ways to block the ADSL signal from telephone equipment:

Method 1. Microfilters. Install a microfilter at each telephone jack being used for a phone, answering machine, fax machine or other telephone device. Microfilter installation is simple and requires no tools or telephone rewiring. Just unplug the telephone device from the baseboard or wall mount and snap in a microfilter, then snap in the telephone device. Contact Westell to obtain a microfilter kit (Westell part number A90-36FK201) which contains multiple microfilters for your installation.

Method 2: POTS Splitter. Install a POTS splitter (Westell model 32RTPSGNA1) at the telephone service entry point. Installation of a POTS splitter may require telephone rewiring, therefore, POTS splitter installation is typically performed by your service provider. If you choose to use a POTS splitter, contact your telephone company or service provider for installation.

Package Inspection and Contents

Upon receipt, thoroughly inspect the unit for damage. If the unit has been damaged during transit, report the damage immediately to the Transportation Company and Westell Customer Support. The transportation carrier assumes responsibility for safe delivery of goods.

The WireSpeed Pro Proxy Router is shipped with a power supply and straight-through Ethernet cable.

You may have to supply the following cables:

- 10Base-T crossover cable with RJ-45 connectors for Ethernet hub to WireSpeed Pro Proxy Router connection
- RJ-11 modular cable for phone line to WireSpeed Pro Proxy Router connection

SAFETY

Follow these safety precautions before installing any electronic equipment:

1. Never install any telephone wiring during a lightning storm.
2. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.
5. This equipment is to be installed and used with approved telco terminal sockets that provide primary lightning protection.



Risk of electric shock. Voltages up to 140 Vdc (with reference to ground) may be present on telecommunications circuits.

WIRESPEED PRO™ INSTALLATION

The WireSpeed Pro Proxy Router operates up to 300 feet (91.4 meters) from a PC or Ethernet hub over 100-Ohm, Category 5 cable.

For installation on a wall surface, follow the instructions below. If you are not installing the unit on a wall surface, proceed to the section on Single or Multiple-User Setup.

Installing on Hollow Drywall Surfaces (Optional)

To mount the WireSpeed Pro to a wall:

1. Obtain two pan-head screws (one #8 and one #6) and two #4 - #8 wall anchors (not provided).
2. Place the WireSpeed Pro against the wall where it is to be mounted, note and mark the upper keyhole slot and screw location.
3. Drill a 3/16" hole for the upper anchor and insert the anchor and larger (#8) screw until the face of the screw is approximately 3/16" from the wall.
4. Test fit the unit on the screw, and adjust the screw depth for a sliding fit.
5. With a pencil, mark the opening in lower mounting tab. Remove the unit from the wall.
6. Drill a 3/16" hole for the lower anchor and insert anchor. Hang the unit on the upper screw.
7. Insert the smaller (#6) screw through the hole in the lower mounting tab.
8. Tighten the lower screw lightly with a screwdriver. Do not overtighten.

Single-User Setup

Refer to the wiring diagrams shown in Figure 1 and Figure 3.

1. Connect the power supply cord to the power connector on the side of the unit and plug it into the wall power receptacle.
2. Connect a standard RJ-11 telephone cable from the LINE connector to the ADSL-equipped phone line.
3. Connect the straight 10Base-T cable (included with this package) to the ETHERNET connector on the side of the unit to the interface on the computer. A crossover cable may be required when connecting to other equipment, such as an Ethernet hub. (See "Multiple-User Setup" below.)
4. Turn the power switch ON.
5. The Ready LED should be a solid green indicating that the power self-test has successfully completed and the unit is synchronized with the ADSL line card. It may take up to 70 seconds for the unit to synchronize with the central office ADSL unit.

6. The Link LED should be solid green indicating that the CPE connection has been made.
7. During use, a pulsing yellow Activity LED indicates that data is being transmitted and received on the Ethernet interface.
8. Proceed to page 16, “Setting Up Your WebShare Account” to configure the software.

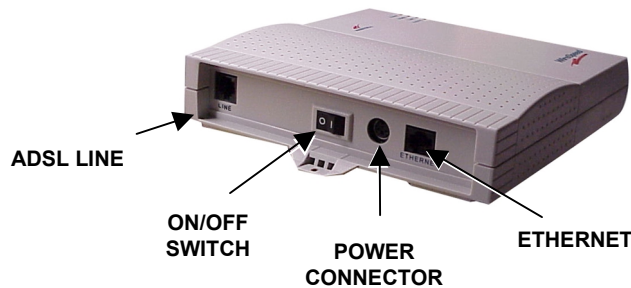


Figure 1. WireSpeed Pro Single-User Setup Connections

Multiple-User Setup

Refer to the wiring diagrams in Figure 2 and Figure 3.

1. Connect the power supply cord to the power connector on the side of the WireSpeed Pro and plug into a power receptacle.
2. Connect a standard RJ-11 telephone cable from the LINE connector to the ADSL-equipped phone line.
3. Obtain a multi-port Ethernet Hub (available separately). Ensure that the hub includes enough Ethernet ports to meet the requirements of the network.
4. Connect the straight 10Base-T cable (included with this package) to the jack labeled ETHERNET on the side of the unit to the jack-designated uplink on the Ethernet Hub. With some Ethernet Hubs, a crossover cable (available separately) may be required. Please see the documentation included with the selected Ethernet hub.
5. Connect each additional PC to the Ethernet hub.
6. Turn the power switch ON.

7. The Ready LED should be a solid green indicating that the power self-test has successfully completed and the unit is synchronized with the ADSL line card. It may take up to 70 seconds for the unit to synchronize with the central office ADSL unit.
8. The Link LED should be solid green indicating that the CPE connection has been made.
9. During use, a pulsing yellow Activity LED indicates that data is being transmitted and received on the Ethernet interface.
10. Go to page 16, "Setting Up Your WebShare Account" to configure the software.

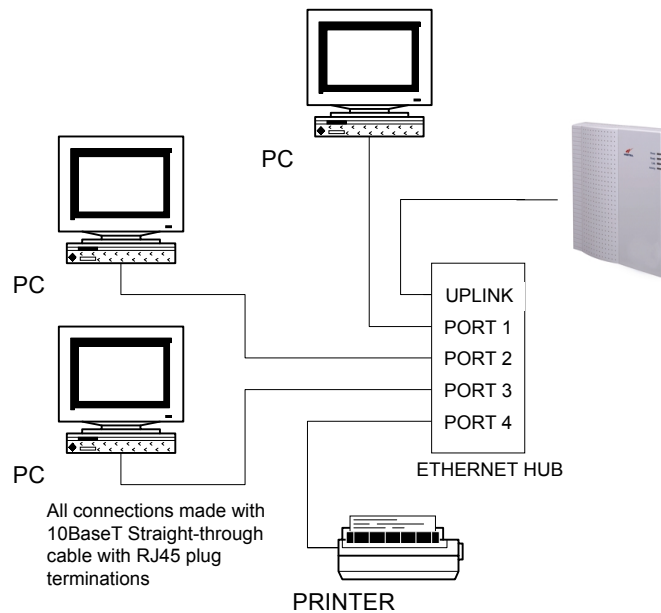


Figure 2. Typical WireSpeed Pro Multi-User Setup Connections

Cable Connectors

There are connectors on the side panel of the WireSpeed Pro (Figure 3) for Power, an ON/OFF switch, 6-pin RJ-11 DSL (LINE) connector and 8-pin RJ-45 ETHERNET connector for customer terminal equipment. Tables 1-3 list the connector types and pinout designations.

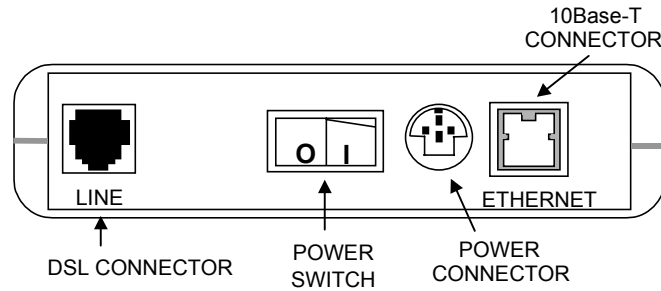


Figure 3. WireSpeed Pro Proxy Router (Side Panel)

Table 1. WireSpeed Pro Proxy Router Connectors

Connector Name	Connector Type	Description
LINE	6-pin (RJ-11) modular jack	POTS/DSL is used to connect the telephone jack with ADSL
POWER	3-pin mini-DIN connector	Connects power cord
ETHERNET	8-pin (RJ-45) jack	Connects to PC or 10BaseT hub

Table 2. LINE Connector Pinouts

LINE Pinouts (RJ-11)	
Pin #	
1, 2, 5, 6	Not Used
3	DSL Tip
4	DSL Ring

Table 3. ETHERNET Connector Pinouts

ETHERNET Pinouts (RJ-45)	
Pin #	
1	Rx+
2	Rx-
3	Tx+
4, 5, 7, 8	Not Used
6	Tx-

LED Indicators

The LED indicators shown in Figure 4 are used to verify the unit's operation and status.



Figure 4. WireSpeed Pro Proxy Router (Front)

LED	State	Description
POWER	Solid Green	Power ON
	No Light	No power
READY	Slow Flashing Green	Power ON and passed power-up diagnostics (1 flash/sec)
	Moderate Flashing Green	Power ON and attempting synchronization (2 flashes/sec)
	Solid Green	Power ON and synchronized with the ADSL line card
	Solid Red	Hardware power-up in progress
	Blinking Red	Unit failed power-up diagnostic
	Alternating Red/Green	Proxy Router diagnostic failed
	No Light	No power
LINK	Solid Green	Link established
	No Light	No 10Base-T link
ACTIVITY	Pulsing Yellow	Data being transmitted. Pulses should match the reception or transmission of Ethernet data.
	No Light	No data on Ethernet interface

Table 4. LED States

Note: Modem LEDs will flash while powering up. This intermittent flashing should not be confused with actual operation status.

WEBSHARE INSTALLATION UTILITIES SOFTWARE SETUP

Running WebShare Installation Utilities

Account parameters must be added to WebShare before connecting to your ISP or Corporate LAN. Use the Westell-provided WebShare Installation Utilities to simplify the setup of the following:

- Selection of the desired Ethernet adapter (in instances where more than one Ethernet adapter exists on the PC).
- Automatic enabling of DHCP
- Automatic assignment of the WebShare gateway address of 192.168.0.1
- Simplified service provider account information installation via the Account Install screen.

We recommend using the WebShare Installation Utilities to automatically configure DHCP on each Windows PC in a multiple-PC environment. Alternatively, DHCP may be enabled manually on Windows computers. Macintosh and Linux users must use manual configuration to enable DHCP on their systems.

Operating System:	DHCP Configuration:
Windows	Automatic or manual
Macintosh	Manual
Linux	Manual

Macintosh and Linux users may access the WebShare Home Page by entering the URL of 192.168.0.1 in their browser Address/Location field.

Running WebShare Installation Utilities for Windows Operating Systems

To install WebShare Installation Utilities on your computer, insert the WebShare Installation Utilities CD into the CD-ROM drive. The CD should run automatically. If it does not, click **Start** > **Run** from the taskbar and type the following line:

E:\win32\setup.exe (where "E" is the designation of the CD-ROM drive)

1. Follow the installation wizard. Figure 5 shows the **Welcome** window.

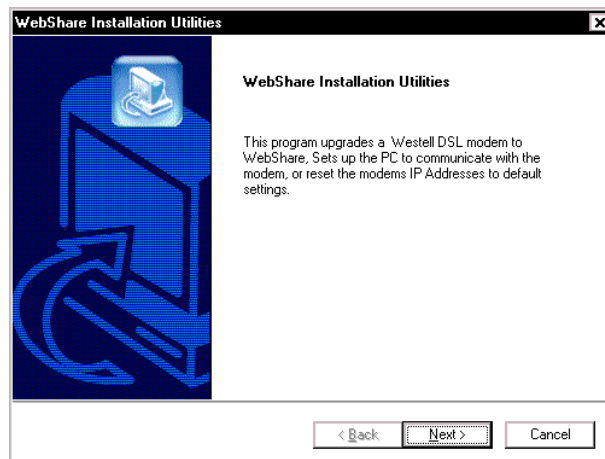


Figure 5. Welcome Window

2. Click **Next**. The **License Agreement** window appears.
3. Read the license agreement, then click **Yes** if you accept the agreement. The **Function Selection** screen appears.

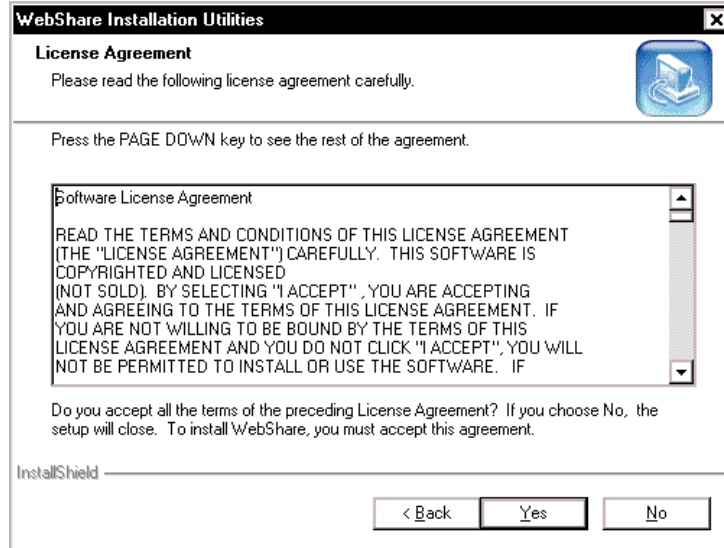


Figure 6

4. On the **Function Selection** screen, three options are available:

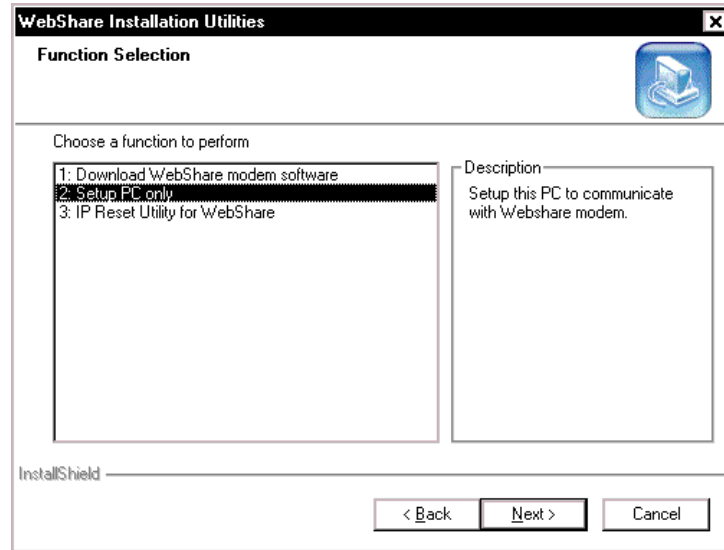


Figure 7. Function Selection


CAUTION

Do not select the default option!

5. Select the second option, **Setup PC only**.
Note: Option 1, **Download WebShare modem software**, is the default and is for software upgrades only. Option 3, **IP Reset utility for WebShare** is used to restore modem settings to WebShare defaults.
6. Click **Next**.

7. The **Choose Destination Location** window (Figure 8) shows where the application will be stored on your hard drive.

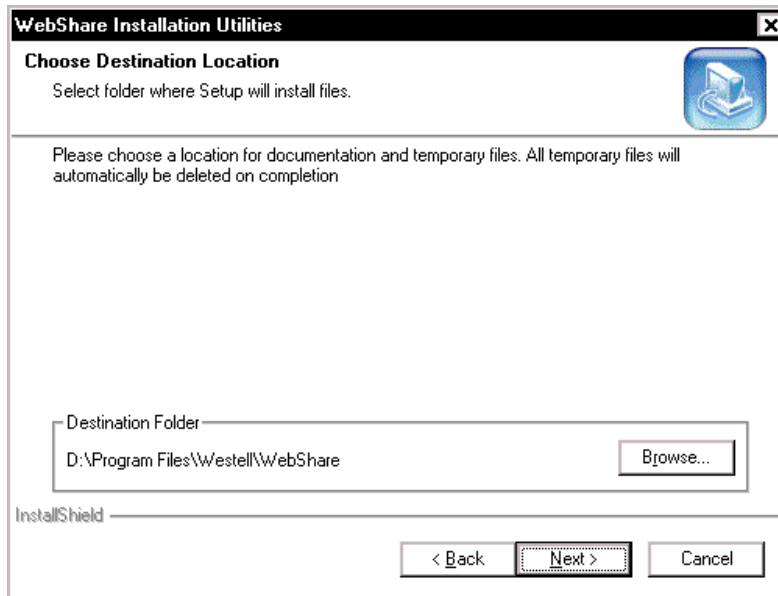


Figure 8. Choose Destination Location

8. Click **Next**. The **Choose Adapter** window appears. (**Note:** This screen will NOT appear if your computer has only one adapter.)

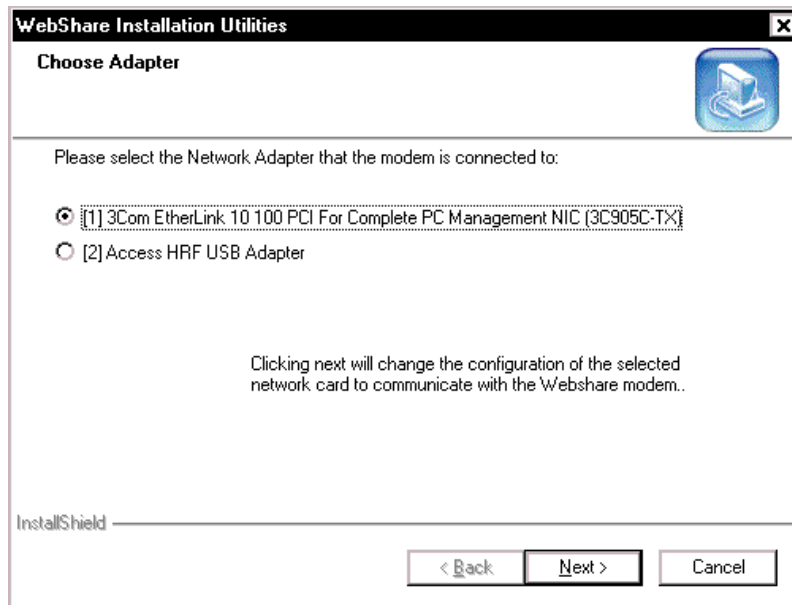


Figure 9. Choose Adapter

9. Click the option button for your network adapter, then click **Next**.

NOTE: If you have multiple Ethernet adapters, select the one to be used with the WireSpeed Pro. Figure 9 shows a window displaying multiple adapters. Be sure to select the physical adapter that is connected to your ADSL modem.

10. The **Setup Complete** window appears. Setting changes will not take effect until the computer has been restarted.

11. Select **Yes I want to restart my computer now** to restart the PC.
Note: Before clicking Finish, remove the Westell CD-ROM from the CD-ROM drive.
12. Click **Finish** to restart your computer.

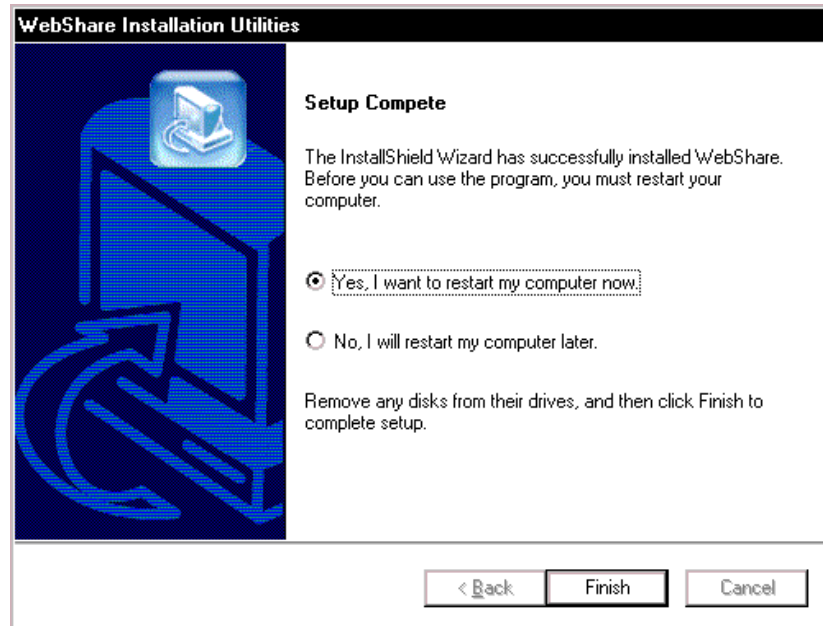


Figure 10. Setup Complete

This completes the basic installation. When your computer restarts, the WebShare Home Page will appear. If you do not wish to set up a WebShare account at this time, you may open the WebShare Home Page by clicking on the WebShare icon on your desktop.



Windows Internet Explorer users should proceed to the next page for instructions on disabling the autodial feature.

Disabling Autodial

(For Internet Explorer users.) A browser is typically set to dial into an ISP connection automatically when the browser is launched. In order to access the Internet through your “always-on” ADSL line, the autodial feature must be disabled.

Dial-Up Settings

Your Connection dial-up setting must be set to **Never dial a connection**. Follow this procedure to verify and/or change your dial-up setting:

1. Click **Start > Settings**, click **Control Panel**.
2. From the **Control Panel** screen, double-click **Internet Options**.
3. The **Internet Options** screen appears. Click the **Connections** tab.
4. In the **Dial-up settings** box, make sure that the option button for **Never dial a connection** is selected. NOTE: If the Dial-up Settings box is dimmed (grayed out) it means you have not yet set up any connections. If this is the case, you do not need to change any settings.
5. Click **OK**.

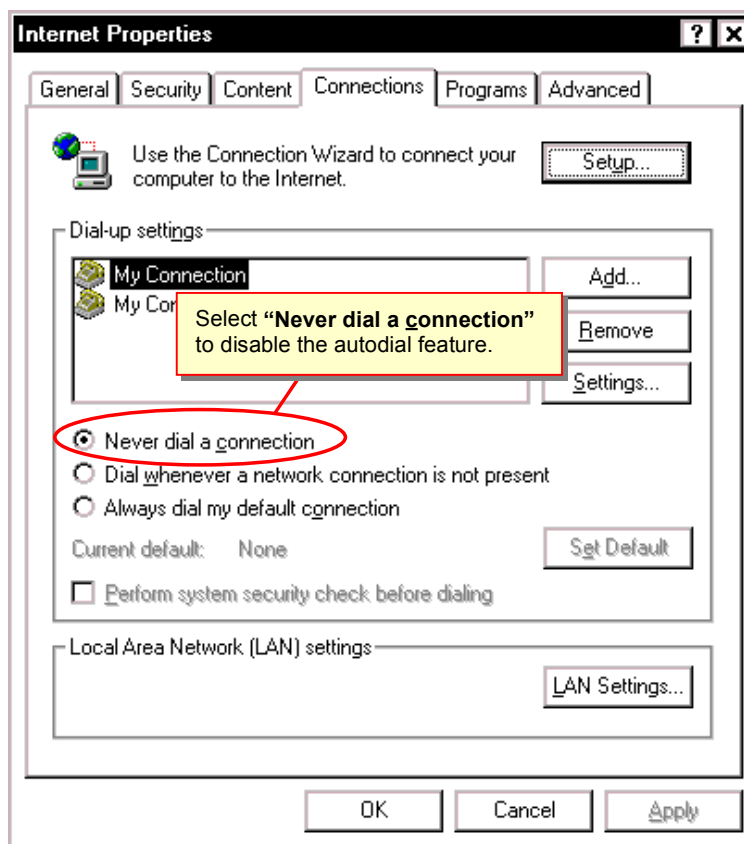


Figure 11. Internet Options Screen (Internet Explorer 5)

SETTING UP YOUR WEBSHARE ACCOUNT

This section shows you how to set up your initial WebShare account. The WebShare account is your link to your ISP. The WebShare Home Page will appear during installation after the computer restarts. It may also be started by clicking on the WebShare icon on the desktop or by opening the browser and typing the URL as indicated in the procedure below.



NOTE

In a LAN or multiple-PC environment, account setup only needs to be done on the computer connected to the WireSpeed Pro. Once an account has been created, it is accessible to all users on the LAN.

Account Parameters

Account parameters are required before connecting to your service provider. The account parameters to be entered in the Account Install window are obtained from your service provider. **User ID** and **Account Description** are the only required parameters.

The Account Description is a word or phrase created by the user to identify the account. It is used by WebShare to coordinate with the service provider. For example, the following parameters were obtained from a service provider:

User ID: Snape@inet
Password: *****

With the following user-defined input:

Account Description: Account 2

Procedure:

1. Open your Internet browser. In the address bar (location bar), type **192.168.0.1** and press ENTER. The WebShare Home Page containing PPP Status and PPP Connections windows appears.

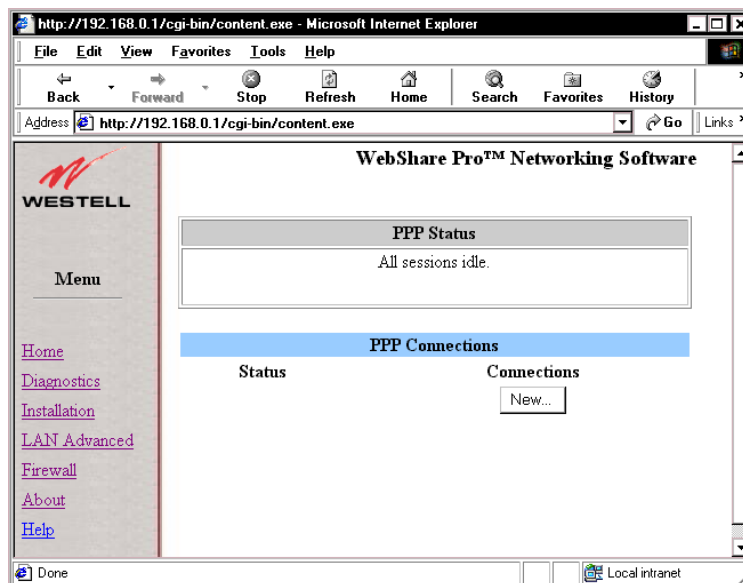


Figure 12. WebShare Home Page

2. Under **PPP Connections** of the WebShare Home Page, click **New...** The **Configure Account** window appears.



Figure 13. Configure Account Window

3. In the **Description** field, type the account description you have chosen to call this connection.
4. In the **User ID** field, type the user ID given to you by your service provider.
5. Click **Save**. The new account will now appear in the WebShare **PPP Connections** window.

Viewing VPI/VCI Parameters

Your service provider will provide you with a VPI (Virtual Path Indicator) and VCI (Virtual Channel Indicator) which are path assignments for your ADSL connection. WebShare defaults to **VPI = 0** and **VCI = 35**. To verify your VPI/VCI settings, select **LAN Advanced** from the WebShare Home Page Menu.

The WebShare **LAN Advanced Configuration** window (Figure 14) displays the current configuration settings.

WireSpeed Pro is shipped with VPI/VCI preset for your area. If these need to be changed, contact your service provider for the correct settings and follow the instructions on the next page.

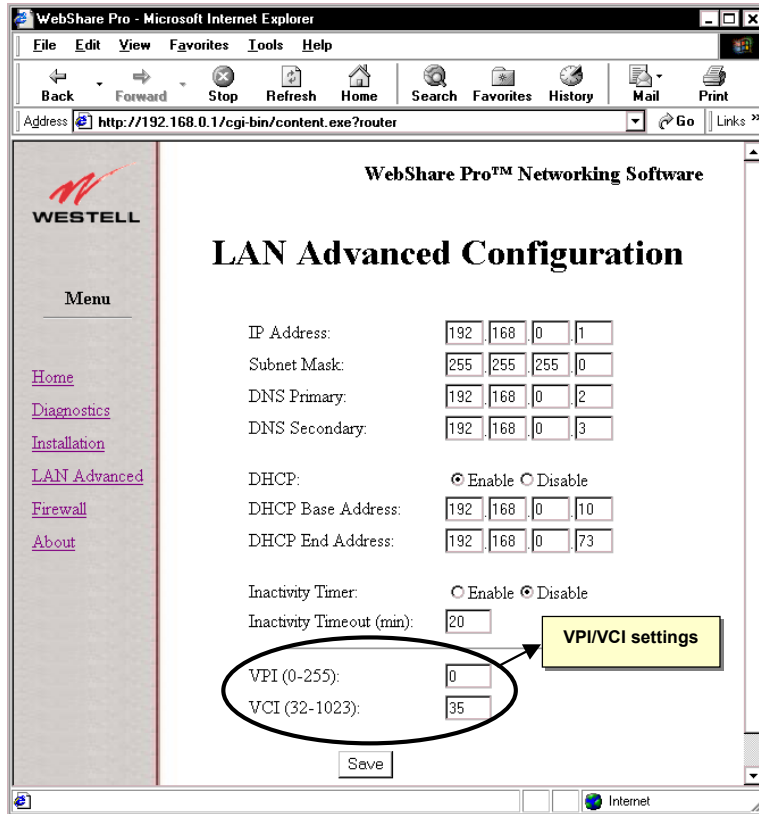


Figure 14. LAN Advanced Configuration Window

Changing VPI/VCI Settings



Do not change your VPI/VCI settings unless instructed to do so by your service provider!

Current VPI/VCI settings are located on the LAN Advanced window. (See Figure 14.) To change them, type the correct numbers in the fields provided and click the Save button at the bottom of the screen. The setting change will not take place until the modem/router has restarted. Follow the on-screen instructions.

Congratulations! You have just configured your first account. **Connecting to an Account** shows how to establish a connection. If you would like to add additional accounts at this time, refer to **Adding and Configuring Additional WebShare Accounts** later in this manual.

Restarting WebShare

When adding, deleting, or modifying WebShare settings, the modem/router must be restarted for the changes to take effect.

When WebShare is saving information and issues a "Please wait ..." warning, wait until the screen returns to an active state before continuing. Certain actions (especially powering off the modem) during such activities may cause configuration data to be lost and cause problems with applications.

1. After making a setting change, click **Save**, WebShare will prompt you for a restart. The following message appears:

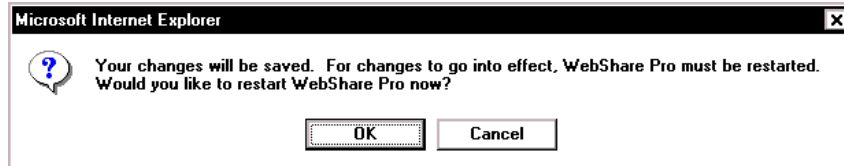


Figure 15

2. Click **OK**. The following screen appears:

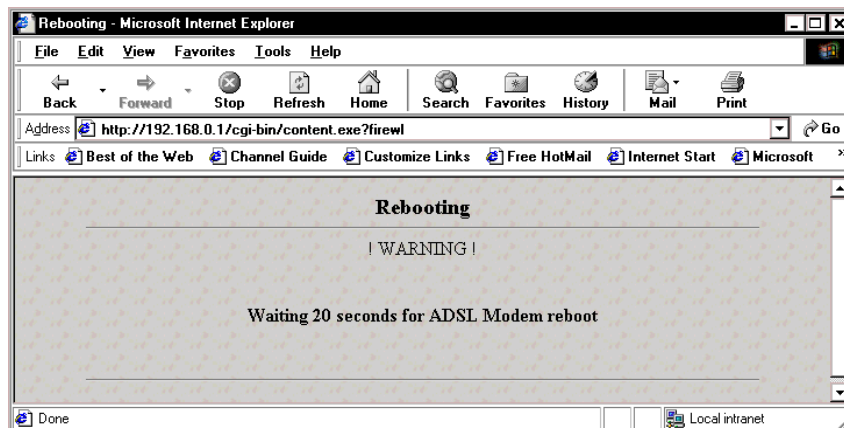


Figure 16

3. The restart happens automatically and may take up to twenty seconds.



If you turn the modem off while a restart is in progress, changes will be lost. You do not need to turn the modem or your PC off and on.

CONNECTING TO AN ACCOUNT

Verify that the Ready LED of the WireSpeed Pro is solid green and at least one PPP account has been created before activating a PPP session with your ISP.

Activating a PPP Session

To activate a PPP session, follow these steps:

1. Click the **Connect** button of the PPP account to be activated on the Home page as shown in Figure 15.

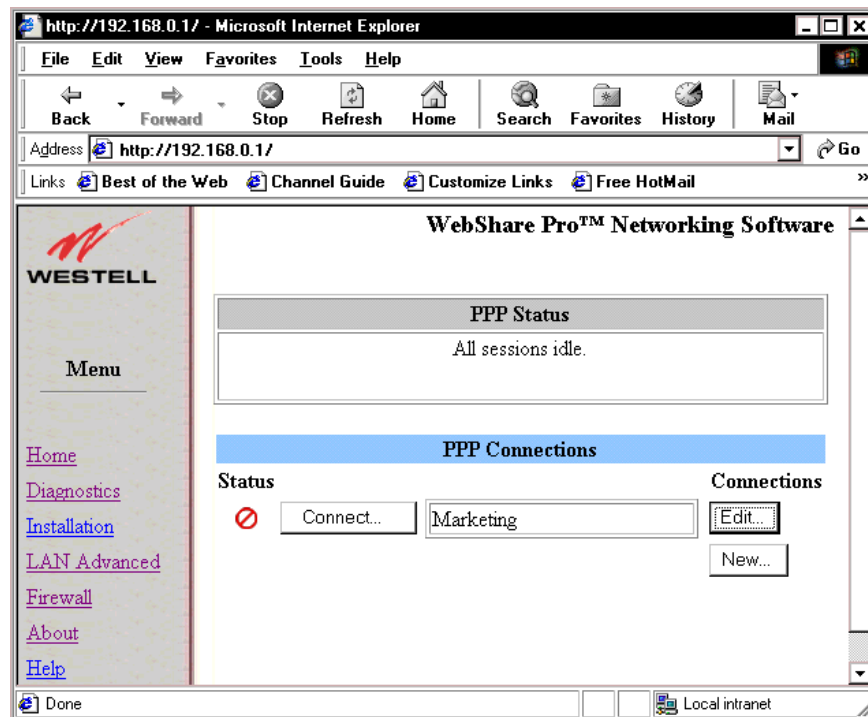


Figure 17. WebShare Home Page

- In the **Connect** window enter your password (received from the ISP) for the User ID of that account. (A valid password must start and end with something other than a space.)



Figure 18. Connect Window

NOTE: If you click the **Save password and enable Auto-Reconnect** checkbox on the **Connect** window, you will not be prompted for a password when using this connection in the future. You need only click the **Connect** button.

- Click the **Connect** button. A **Connecting to** screen appears briefly. Once a connection is made, a **Connected to <connection>** message appears in the **PPP Status** box to inform you that a PPP session has been established on the connection you chose. (Where “<connection>” is the name of your connection.)

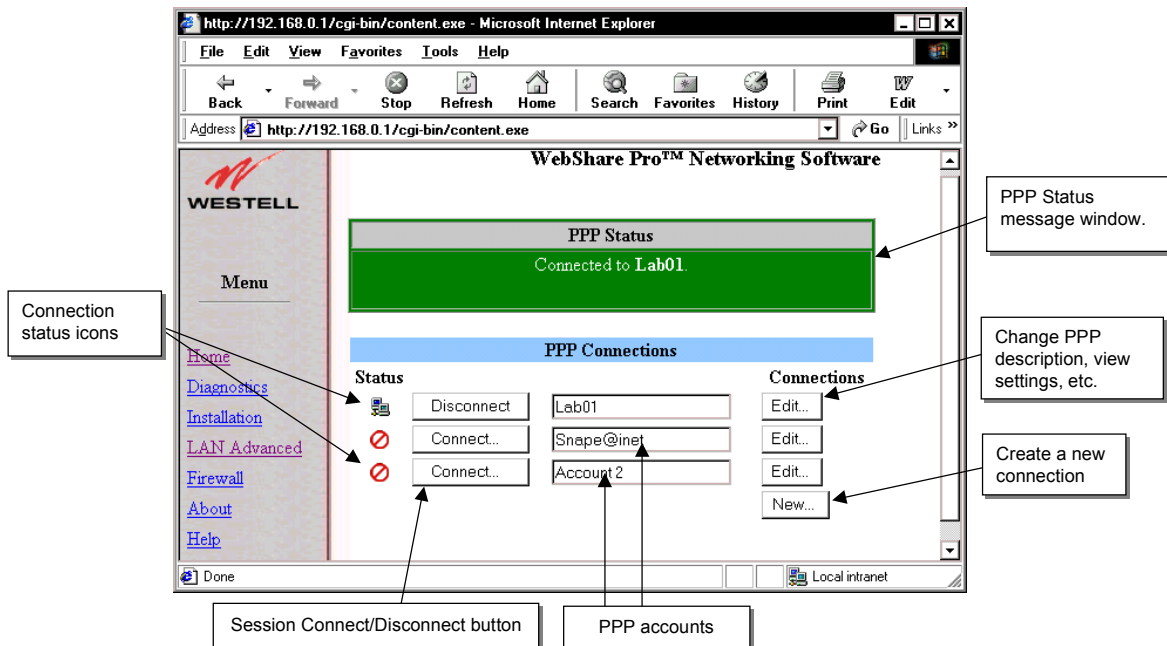




Figure 19. Connection Window

When a PPP session becomes active, the WebShare home page will show a **Disconnect** button in place of the **Connect** button (see Figure 17). The  icon replaces the  icon signifying that a PPP session has been established. The PPP Status window turns green and displays the connected Account.

After the PPP account connects to the ISP, you can browse the Internet by entering the desired URL (universal resource locator) directly into the Address box (Location box) of your browser.

You're now ready to surf the Internet!

Try: <http://www.westell.com>

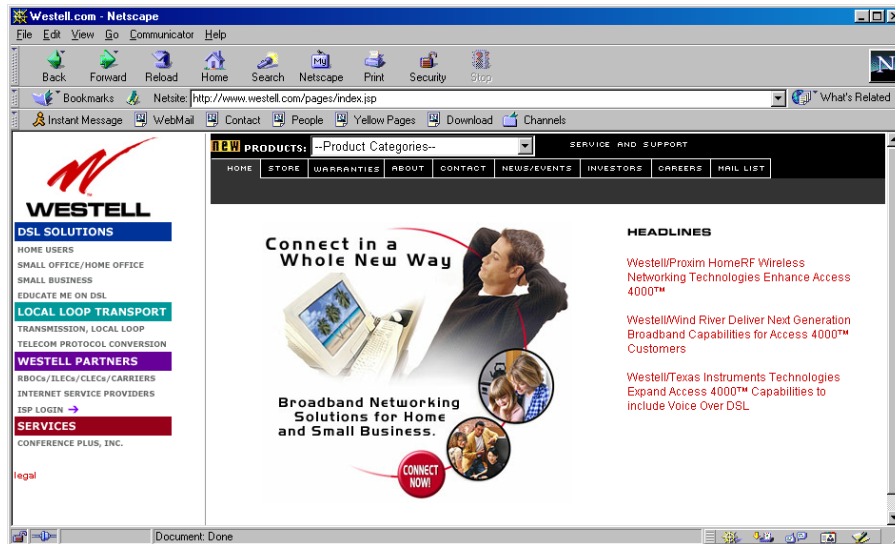


Figure 20. Westell Home Page

Disconnecting from a PPP Session



To exit a PPP session, return to the WebShare Home Page by any of the following methods:

- Maximizing WebShare, if you minimized the Home Page before surfing
- Selecting WebShare from Bookmarks or Favorites
- Closing your browser and double clicking the **WebShare** icon on your desktop

Click the **Disconnect** button for your account on the WebShare Home Page.



If ANY user disconnects a session, ALL active users are interrupted.

The  icon in place of the  icon signifies that a PPP session has been disconnected. Close your Web browser.

To begin another PPP session, click the **WebShare** icon on your desktop.



Figure 21. The WebShare Icon

CONFIGURING WEBSHARE

Use this section when adding new accounts or changing account parameters.

Accessing the WebShare Management Interface

To access the Web browser management interface, follow these steps:

1. Make sure that your computer is turned OFF.
2. Verify that an Ethernet connection is established between your computer and the WireSpeed Pro .
3. Turn the WireSpeed Pro ON.
4. Turn the computer power ON.

NOTE: Because the computer gets the IP address from the WireSpeed Pro, these steps ensure the WireSpeed Pro is turned on before the computer starts.

5. After the operating system has completely loaded, verify that the Link indicator light on the top of the WireSpeed Pro is steady green.
6. Click on the WebShare icon on the desktop.

The figure below shows the initial WebShare home page that contains no PPP accounts.

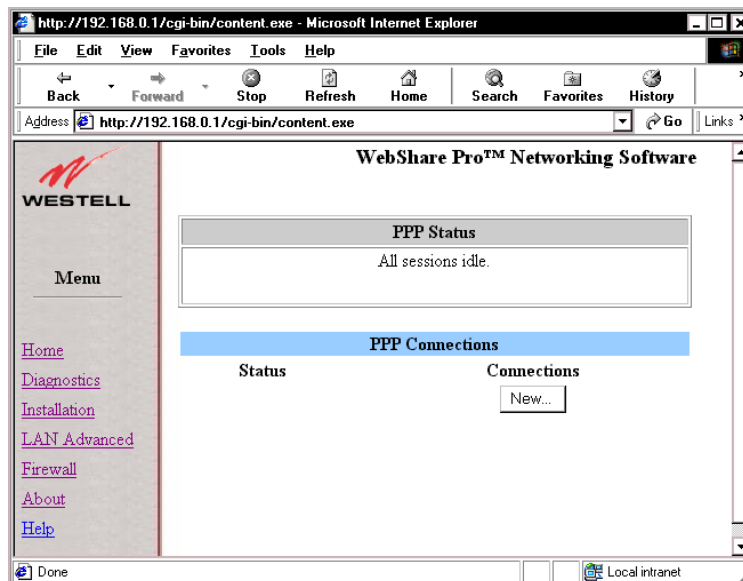


Figure 22. Initial WebShare Home Page

Adding and Configuring Additional WebShare Accounts

To configure another PPP account, the following information must be obtained from your service provider:

- User ID
 - Password
1. On the WebShare Home Page under **PPP Connections**, click the **New** button. The **Configure Account** window opens.
 2. In the **Description** field, enter a description or name you wish to call the account. This can be any set of alphanumeric characters that make a user-friendly description for reference (e.g. Account 1, Sales 1, Internet 1, etc.) WebShare holds up to eight accounts.
 3. In the **User ID** field, enter the user ID obtained from your ISP.



Figure 23. Configure Account Dialog Box

3. Click **Save** to commit these values to WebShare.
4. The **Configure Account** window closes and a new entry appears under **PPP Connections** on the Home Page.

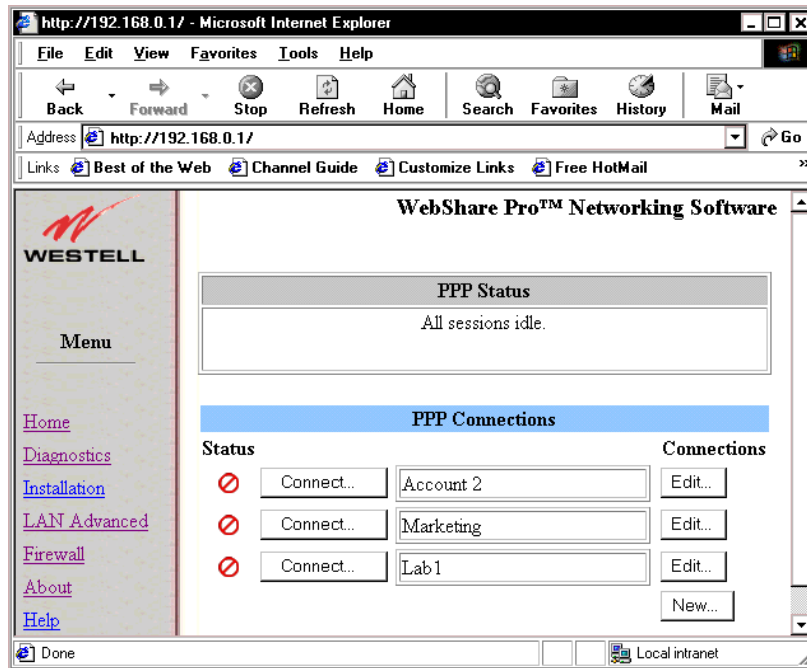


Figure 24. PPP Connections

To add more PPP accounts, repeat the configuration process described above. WebShare holds a maximum of eight accounts.



With multiple accounts, when ANY user attempts to establish a session with an idle account while another session is active, a warning is displayed (Figure 25). If the OK button is selected, the currently active session is disconnected interrupting any current user activity before the Connect login window appears.

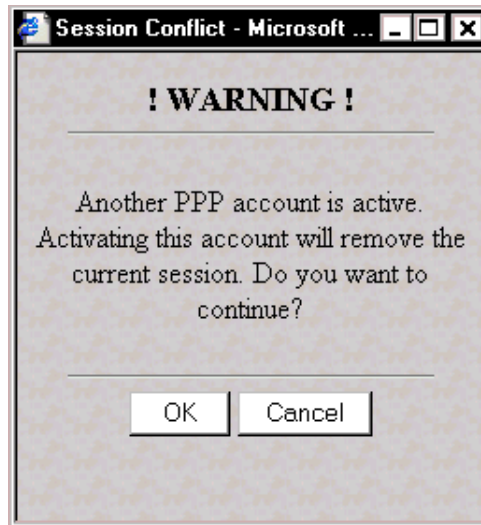


Figure 25. Session Conflict Warning

THE WEBSHARE MANAGEMENT INTERFACE

THE MANAGEMENT MENU

Selecting the WebShare icon on the desktop activates your web browser and establishes a home page for WebShare. A **Management Menu** (Figure 26) is located in the left portion of your home page. It provides links to the other management pages available for configuration, status, control and other operation information for WebShare.

Home

The WebShare Menu on the WebShare Home Page provides access to all the configured PPP accounts and allows PPP session control.

Diagnostics

Provides WireSpeed Pro and PPP session diagnostic capability.

Installation

Provides a method for installing an upgrade to WebShare software.

LAN Advanced

Allows the editing of local Ethernet interface configuration parameters.

Firewall

Allows users to configure firewall and security parameters.

About

Contains the model number, serial number and software versions of WebShare

Help

Provides help information for the management page being displayed.



Figure 26. Management Menu

The Home Page

The WebShare Home Page provides access to all of the configured PPP accounts and allows PPP session control.

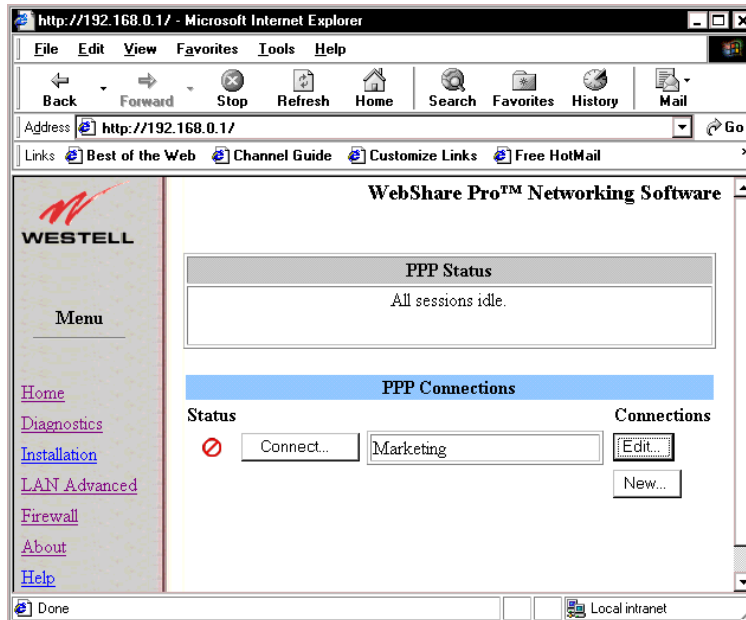


Figure 27. WebShare Home Page

Home Page Main Window

This section contains a list of PPP accounts. Each PPP account is contained within a row of the table. Each row contains information about the account. The fields are defined in the sections immediately following.

Connections

The PPP Connections screen provides a window for the description of each individual PPP account. The text string is the user-friendly description you entered in the Configure Account dialog box.

Connect/Disconnect

The Connect/Disconnect button provides PPP session control for the associated account. This allows you to connect and disconnect from various PPP accounts, when desired. This button changes depending upon the state of the PPP session. If the account is inactive, the button reads **Connect**. If the account is active, it reads **Disconnect**.

Edit/New

The Edit/New buttons provide access to the PPP session parameters specific to the particular account. The **New** button gives users the ability to create new accounts. Edit lets users change the account description and view configuration data.

Status

The **Status** column indicates the state of each PPP account.



This icon shows that the account is **INACTIVE**. (No connection established.) Click **Connect** to activate the connection.



This icon shows that a PPP account is **ACTIVE**. (A connection is currently active.) Clicking on this icon will disconnect the user. (An empty account has no icon in the Status column.)

Building New Accounts

Adding a New Account to the Home Page. (See “Adding and Configuring WebShare Accounts” on page 25.)

Click the **New** button. In the **Configure Account** dialog box, type a description of the account into the **Description** field and the user ID defined by your ISP. Click the **Save** button in the dialog box to commit the new account information to WebShare.

Viewing DNS Primary and Secondary IP Addresses

DNS primary, secondary and PPP IP addresses are assigned by your ISP. It may be necessary to verify the DNS Primary and Secondary IP addresses for a specific PPP account while troubleshooting. To view the current settings for an account:

1. Click the **Edit** button of the appropriate PPP account. The **Configure Account** dialog box appears.
2. Click the **Advanced** button to view the DNS and IP information.

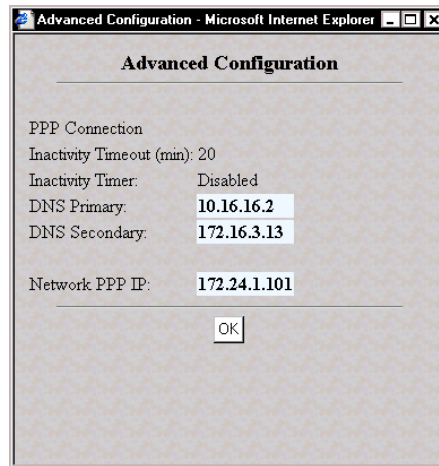


Figure 28. Advanced Configuration (Sample values. Actual data may vary.)

The **Advanced Configuration** window displays your DNS IP values. These values and the Network PPP IP only appear when a connection is established.

DIAGNOSTICS

Accessing the Main Diagnostics Page

Select the **Diagnostics** menu item from the WebShare management menu to access the Diagnostics page. Figure 29 shows the window before any diagnostics have been performed.

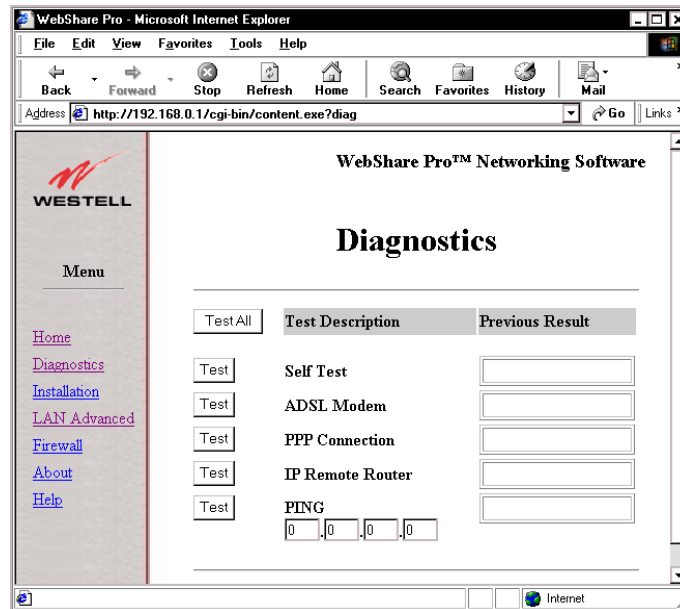


Figure 29. Diagnostics Window

Test All

The **Test All** button will execute all of the tests sequentially beginning with the Self Test and ending with Ping.

Figure 30 shows the Diagnostics window returned after clicking the **Test All** button.

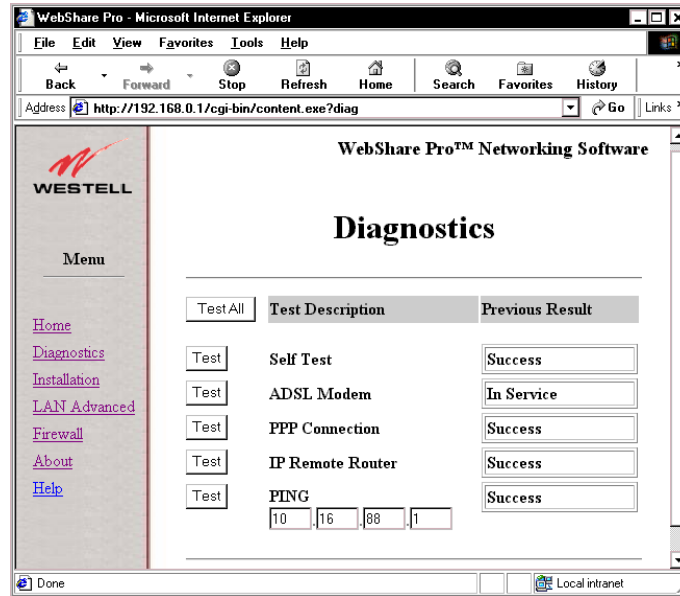


Figure 30. Diagnostics Window (Sample values. Actual data may vary.)

Self-Test

This test button starts a testing process that verifies the integrity of all PPP account information.

Messages:

- **Success:** All stored information verified correctly.
- **Failure:** An error was detected in the stored PPP account information. The information needs to be re- entered.

ADSL Modem

This test button initiates a testing process that verifies management communications with the WireSpeed Pro transceiver.

Messages:

- **In Service:** The WireSpeed Pro is synchronized with the central office Channel Unit and is ready to send/receive data.
- **Out of Service:** The WireSpeed Pro transceiver is NOT synchronized with the central office Channel Unit, but is functioning properly. (This may happen if the connector cable is not correctly plugged into the WireSpeed Pro or the access jack.)
- **Failure:** The WireSpeed Pro transceiver is not functioning properly.

PPP Connection

This test button initiates a testing process that verifies connectivity with the service provider's Remote Access Server (RAS).

Messages:

- **Success:** WireSpeed Pro has a verified connection with the ISP and is ready to send and receive data.
- **No PPP Connection:** There is no link between the WireSpeed Pro and the central office equipment.
- **Failure:** A PPP session is active, but WireSpeed Pro failed to get a response from the Remote Access Server.

IP Remote Router

This test button initiates a test that pings the remote IP address linked by the PPP session establishment.

Messages:

- **Success:** A response was obtained from the remote IP address.
- **No PPP Connection:** No link found between the WireSpeed Pro and the central office equipment.
- **Failure:** No response from the remote IP address.

PING

This test button initiates a 'ping' to the host IP address specified within the ping host entry field. A PING (Packet Internet Groper) is a protocol program for sending a signal to see whether another network host or other device is on-line and responding. This application will tell you if a particular entity is presently connected to the Internet. It is used to check if a machine on the Internet is alive and reachable.

Messages:

- **Success:** A response was obtained from the IP address entered.
- **No PPP Connection:** No link found between the WireSpeed Pro and the Central Office equipment.
- **Unknown Host:** No response from the specified IP address.

THE NEW SOFTWARE INSTALLATION PAGE

This screen (Figure 31) is reserved for installing future software upgrades. Westell will provide instructions with new upgrades.

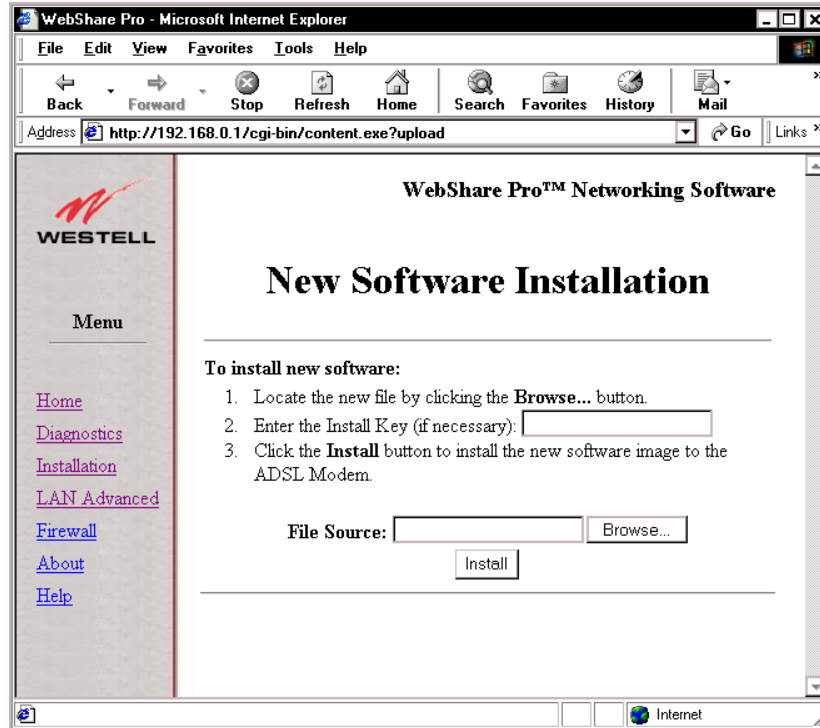


Figure 31. Software Installation Window

THE LAN ADVANCED PAGE

Accessing the LAN Advanced Configuration Dialog Box

The **LAN Advanced Configuration** dialog box is accessed by selecting the **LAN Advanced** menu item from any of the WebShare management windows.

This window displays the local Ethernet characteristics including the IP address, subnet mask, DNS proxy IP addresses, and the state of the DHCP server.

These parameters are stored and remain in WebShare until changed, or until the default values are reset with the IP Reset Utility for WebShare. (Option 3 on the **Function Selection** screen.)



If the IP address is changed, WebShare will not respond to the default IP address of 192.168.0.1. Be sure to change the URL to the new IP address when accessing the management pages.

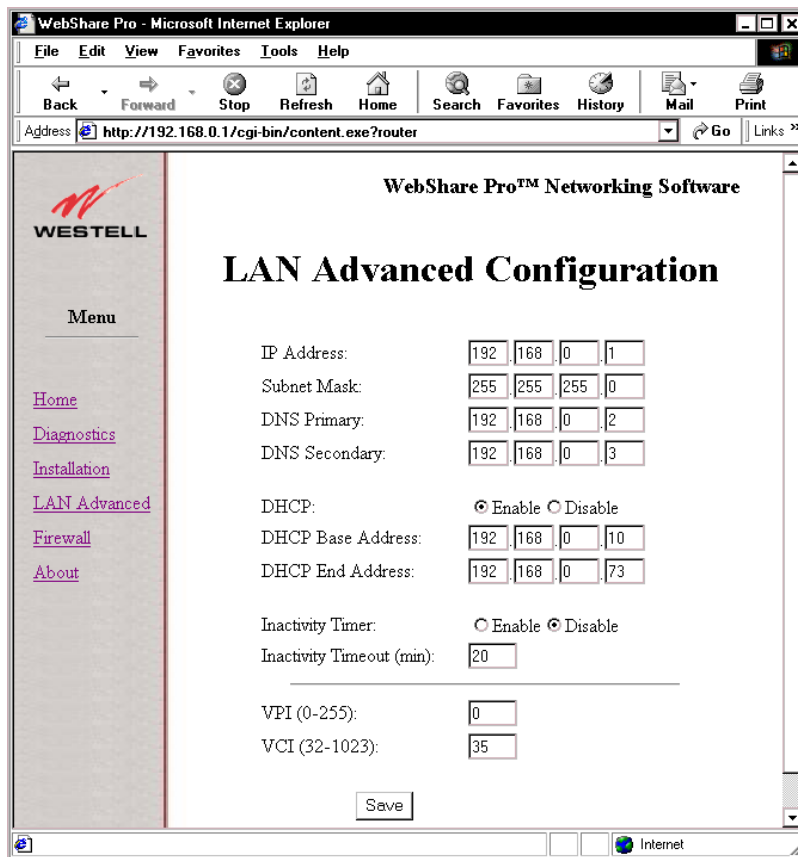


Figure 32. LAN Advanced Configuration Dialog Box (Sample values. Actual data may vary.)

IP Address

The Internet Protocol (IP) address is a unique 32-bit number used to identify the host computer connected to a TCP/IP network. The value of the IP Address is represented in a dotted decimal format. WebShare assigns 192.168.0.1 to this address by default. This value may be changed to any valid IP address e.g. an existing address assigned for local LAN administration. Note: If the default IP Address needs to be changed, the DHCP Base and End addresses will also have to be adjusted. All changes will be entered in the LAN Advanced Configuration screen.

Subnet Mask

The subnet mask is a 32-bit number used to identify the network and host segments of an IP address. This value is represented in the same dotted decimal format as the IP address. This is the subnet mask associated with the IP address above. This value should not be set to a subnet address greater than 255.255.255.248 to accommodate the WebShare IP.

The default value for the subnet mask is 255.255.255.0.

Domain Name System (DNS) Primary

The domain naming system is a convention used for identifying computers attached to the Internet or a Local Area Network (LAN). DNS maps a name to its corresponding IP address. A host to resolve a domain name to the IP address uses the main DNS server. The secondary or backup DNS server performs the same function as the main server.

This IP address represents the address that WebShare uses to respond to primary DNS queries from your computer. The default value is 192.168.0.2.

Domain Naming System (DNS) Secondary

This IP address represents the address that WebShare uses to respond to secondary DNS queries from your computer.

The default value is 192.168.0.3.

Dynamic Host Configuration Protocol (DHCP)

DHCP is a protocol used to automate the administration of IP addresses within a local area network. A server provides the IP allocation for computer hosts that are running a DHCP client. This controls the state of the local WebShare DHCP Server.

The default value is **enabled**.

DHCP Base Address

This is the first address in the block of IP addresses between the 'base' and 'end' addresses allocated by the DHCP server.

The default value is 192.168.0.10.

DHCP End Address

This is the last address in the block of IP addresses between the 'base' and 'end' addresses that the DHCP server allocates.

The default value is 192.168.0.73.

Inactivity Timer Timeout

WebShare provides an Inactivity Timer that closes an active PPP session if there has been no traffic through the WireSpeed Pro from or to any user. The timeout value may be adjusted on the LAN Advanced Configuration window shown in Figure 32. For a session to be “always on”, select the **Inactivity Timer Disable** option.

The Inactivity Timeout Value determines the length of time a session will remain connected with no data flow from either direction. The default setting is disabled. To enable, select LAN Advanced from the Management menu. In the LAN Advanced Configuration window, select the Enable option and enter an Inactivity Timeout time in minutes. The valid range is from 0 to 9999 minutes. A zero will have the same effect as disabling the timer.

Click the **Save** button in the LAN Advanced Configuration dialog box to commit the new account information to the WebShare. You will be prompted for a modem restart. Allow 20 seconds for the restart to complete. Interrupting the restart process may cause you to lose your setting data. (See “Restarting WebShare” on page 19.)

FIREWALL

The WebShare Firewall feature allows users to control the types of Internet traffic allowed to be sent and received by users on your local network.

Inbound/Outbound Traffic

Inbound traffic consists of messages that originate outside the end-user network. *Outbound traffic* consists of messages that the end user creates (or forwards) from the local network and sends to users or systems outside the network. Both inbound and outbound traffic must pass through the firewall security system.

Table 5. Firewall Functions

Firewall Function	Description
Security	Controls outbound traffic initiated from within the local network.
Port Forwarding	Controls inbound traffic initiated outside the local network.
Advanced Access	Allows customized control of outbound traffic initiated from within the local network.

Firewall Security

The Security panel controls settings for *outbound traffic* initiated within the local network. Security options allow for High, Medium, and Low levels of traffic screening. In addition, a user-configured Custom setting is available.



Figure 33. Firewall Security (Outbound Traffic)

Security Levels

The four levels of firewall security are described in the table below.

Table 6. Firewall Security Levels

Level	Description
High*	Blocks all outgoing traffic except HTTP, HTTPS, FTP, POP3, SMTP and DNS.
Medium*	Default setting.
Low	Allows all outgoing traffic.
Custom	Allows users to customize settings.

*See “Firewal Services” in the appendix for a list of the traffic types affected under each setting.

Setting the Security Level

To change security level, click the option button for the level, then click the **Save** button at the bottom of this window. (You may have to scroll down.)

Custom Settings

Custom security functions are available on the Advanced Access screen. Users electing the Custom security option must follow this procedure:

1. Select the **Custom** option on the gray **Firewall Security** screen. The following message appears:

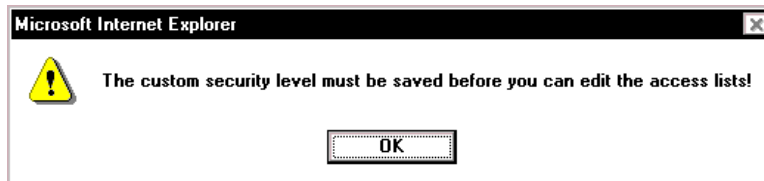


Figure 34

2. Click **Save**. Wait for the WebShare to restart. (See “Restarting WebShare” on page 19.)
3. Click the **Advanced Access** link (blue tab) to proceed to the custom settings. The **Advanced Access** functions are described later in this document.

Saving Changes

All changes to Security level, adding and deleting services and lists must be saved before they take effect. To save changes, click the **Save** button at the bottom of the screen. (You may have to scroll down for it.)



If you turn the modem off while a restart is in progress, changes will be lost. You do not need to turn the modem or your PC off and on.

Firewall Port Forwarding

Firewall Port Forwarding controls *inbound traffic* originating from outside of your local area network. The Port Forwarding screen allows you to enable or disable Port Forwarding and to add or delete services. Port Forwarding allows you to direct requests for any particular service (e.g., HTTP, FTP,) to a particular IP address on your LAN.

To access the Port Forwarding panel, click the link **Port Forwarding** on the green tab.

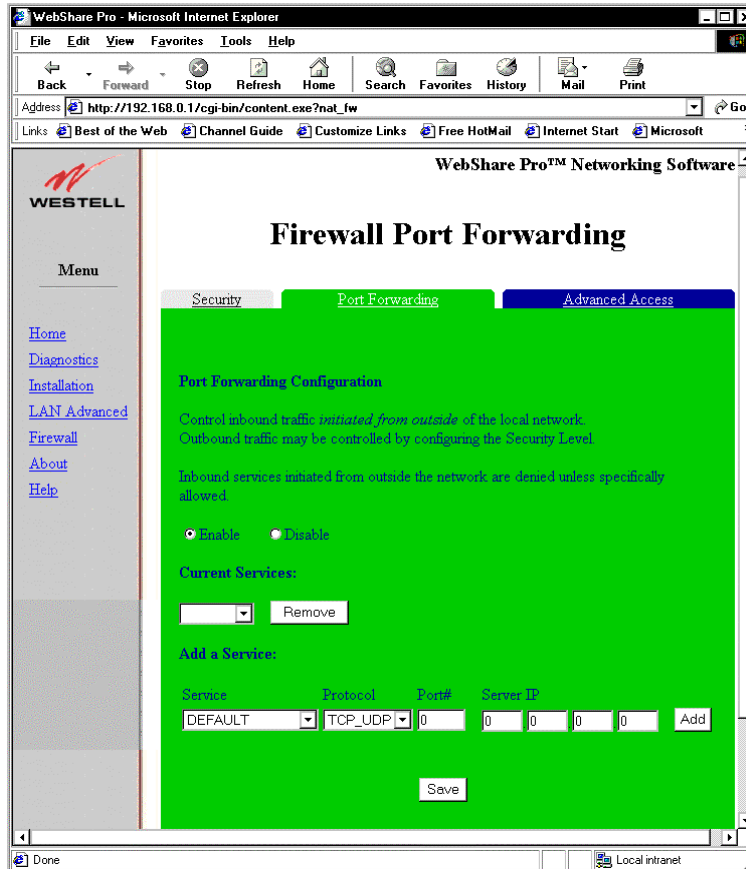


Figure 35. Port Forwarding (Inbound Traffic)

Additional Protocol Support

Many network applications use complex schemes of port allocation that make them hard to support through a NAT firewall. The current version of WebShare supports some well-known complex protocols, such as FTP and PPTP, but omits others. Knowledgeable users should be able to set up custom rules that make it possible to support other protocols.

Enabling/Disabling Port Forwarding

Port forwarding controls may be turned on/off by selecting the **Enable** or **Disable** option buttons. When Port Forwarding is enabled, the firewall directs specified inbound traffic types to specific users (IP addresses). Disabling Port Forwarding prevents any unsolicited inbound service request from reaching your LAN.

NOTE: Disabling Port Forwarding is necessary when turning off the firewall feature. (See “Turning the Firewall Off” on page 46.)

Deleting a Service

Deleting a service from this list prevents inbound requests for that service type from reaching users on the local network. The drop-down list under **Current Services** displays the service types that can be provided by hosts on your LAN to hosts outside the LAN.

To delete a service:

1. In the **Current Services** drop-down list, locate and highlight the service to be removed.
2. Click **Remove**.
3. When you have finished removing all the services you intend to delete, click **Save**. Wait for the modem to restart. (See “Restarting WebShare” on page 19.)

Adding a Service

Adding a service allows that inbound service request to pass through firewall security and reach the specified IP addresses (users). The list of services available under Port Forwarding includes all services supported under the medium security setting. (See the table **Medium Security: List of Services Allowed** under “Firewall Services,” in the appendix.)

To add a service to the Port Forwarding configuration:

1. In the Add a Service drop-down list, select the service to be added.

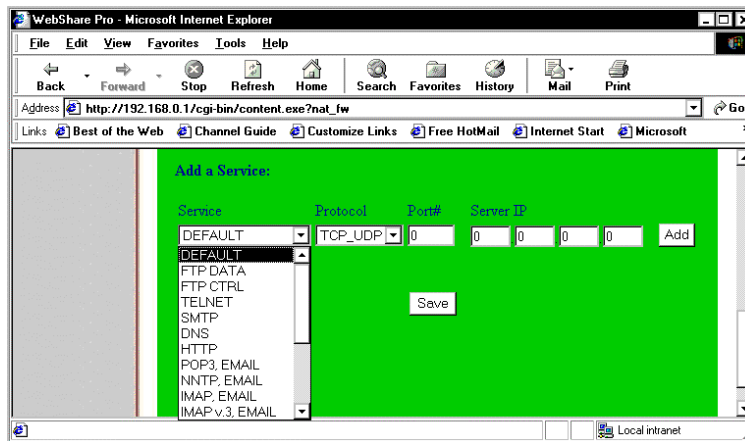


Figure 36. Service Drop-down List

2. After choosing the service, the Protocol type and Port number will appear. You may add more than one service. Click **Save** when finished.
3. You will be asked to confirm your save. Click **OK**.
4. The following message appears. Click **OK** and wait for WebShare to restart.



If you turn the modem off while a restart is in progress, changes may be lost. You do not need to turn the modem or your PC off and on.

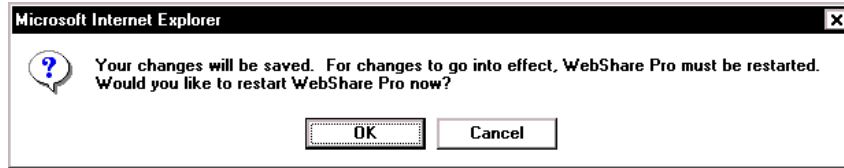


Figure 37

 **CAUTION** 

Port Forwarding makes it possible for users outside of your LAN to access IP addresses on your LAN. It selectively disables firewall protection for the configured services and IP addresses. In particular, if you set up a DEFAULT service for an IP address, you are effectively disabling any firewall protection at all for that IP address.

Firewall Custom Access Security

Firewall Custom Access Security (Advanced Access) affects *outbound traffic* and allows users to create custom configurations to control outbound traffic originating within the local network and sent outside the local network. This control is in the form of *Access Lists*. An Access List consists of one or more IP addresses and a list of service types.

The meaning of the service elements listed in an Access List depends on the security level from which that list is derived. If the previous security level (prior to Custom setting) was High or Medium, the services appear as "Allowed Outbound Services." If the previous security level was Low, the service list appears as "Denied Outbound Services." The Access List label (Allowed/Denied Outbound Services) indicates which of these possibilities is in effect.

The Advanced Access Panel

To open the Advanced Access panel, the security level on the Security screen must first be set to **Custom** and saved. Click on the **Advanced Access** link on the blue tab.



Figure 38. Advanced Access (Outbound Traffic)

Access Lists

An Access List defines one or more LAN-side IP addresses (users) for a set of services. Click on the **Access Lists** folder to display the current lists.

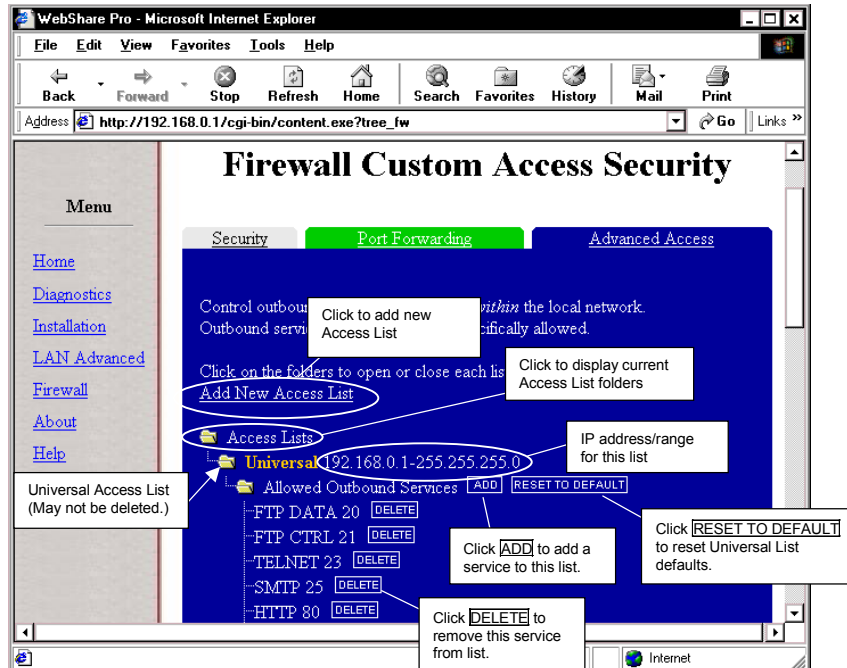


Figure 39. Firewall Custom Access Security

WebShare allows two levels of Access List control. The *user-defined Access List* allows you to specify the services available to a particular set of IP addresses on your LAN. The *Universal List* applies to all IP addresses on your LAN. You may setup individual user-defined Access Lists for as many or as few of your local IP addresses as you wish. (You are not required to create any.)

An outbound request for service from a given IP address is first checked against the user-defined Access List for that IP address if one exists. If none exists, or if the existing list does not affect that request, then the request is checked against the Universal List. Any Access List (Universal or user-defined), can be set to match the Medium security setting by pressing the **RESET TO DEFAULT** box next to the **Allowed Outbound Services** folder.

The Universal List

The Universal List serves as a default. Its rules apply to any IP address which has no user-defined Access List or one that has a user-defined list which does not specify a disposition for a given service. Services may be added to or removed from the Universal List, but the list itself cannot be deleted.

Note: After making changes to an Access List, you must click the **Save** button at the bottom of the Advanced Access screen. (Scroll down, if necessary.)

Creating a New Access List

Adding a new Access List provides a custom access configuration for a user or group of users. User-defined Access Lists allow you to apply special rules in addition to those in the Universal list. An Access List is created by first specifying the IP address (or range) to which the services apply, then by adding services to the list. Each service listed on the Access List is another service allowed or denied to the IP address(es) for that list. You can add or delete individual services to customize firewall control.

To add a new Access List:

1. Click the link, [Add New Access List](#). The **Firewall - Add new Access List** screen appears.

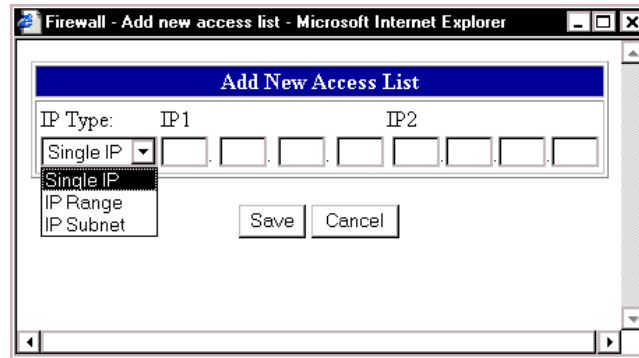


Figure 40. Firewall--Add New Access List

2. From the **IP Type** drop-down list, select the IP type you are adding (Single IP, IP Range, or IP Subnet).
3. In the fields provided for **IP1**, type the IP address of the list you are adding. If you selected IP Range for the IP Type drop-down, type the first IP address of the range under **IP1** and the last IP address of the range under **IP2**.
4. Click the **Save** button at the bottom of the **Firewall: Add new Access List** screen.

Adding a Service

Adding a service to an Access List allows users to send traffic of that type outside the local network.

To add a service:

1. Click on the **Access List** folder to display the current Access Lists.
2. Click the **ADD** box to the right of **ALLOWED OUTBOUND SERVICES**. The **Firewall - Add a service** window opens.

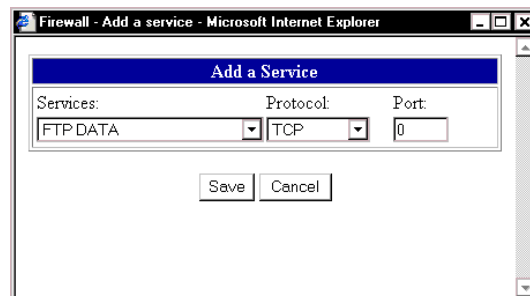


Figure 41. Firewall--Add a Service

3. From the **Services** drop-down list, find the service you wish to add.

5. Click **Save** to close the **Firewall - Add a service** window.
6. When finished adding services, click the **Save** button at the bottom of the **Advanced Access** screen.

Deleting a Service

Deleting a service prevents users from sending that message type outside the local network.
To delete a service:

1. Click on the **Access List** folder to display the current Access Lists. Each service appears with a **DELETE** box to the right.
2. Click the **DELETE** box to remove the service. The following warning message appears:

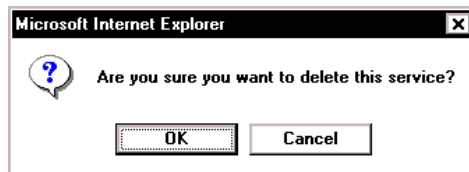


Figure 42. Service Delete Warning

3. Click **OK**. The service is removed from the list.
4. Click the **Save** button at the bottom of the **Advanced Access** screen when finished deleting services. WebShare will prompt for a restart. (See “Restarting WebShare” on page 19.)

Optional Access Restrictions

IP Masquerading (IP “Spoofing”)

When IP Masquerading is enabled, unsolicited outside messages are blocked from entering the LAN. The originating addresses of inbound messages are checked to verify that they come from legitimate addresses. Enabling IP Masquerading blocks messages originating at these addresses:

- Local LAN addresses
- IP address of 0.0.0.0
- Private IP addresses:
 - Any address beginning with “192.168.” (192.168.*.*)
 - Any address in the series 172.16.*.* through 172.31.*.*
 - Any address beginning with “10.” (10.*.*.*)

To enable or disable IP Masquerading:

1. Click the **Enable** option button to allow IP Masquerading. Click the **Disable** option button to prevent IP Masquerading.
2. Click the **Save** button at the bottom of the **Advanced Access** screen when finished. WebShare will prompt for a restart. (See “Restarting WebShare” on page 19.)

Turning the Firewall Off

When WebShare is installed, the firewall feature is automatically active and set to the medium security level. Turning off the firewall feature reverts the WireSpeed Pro to basic NAT functionality--individual IP addresses are hidden from outside. Turning off the firewall requires changing two settings: 1) the Security Level on the Firewall Security panel for outbound traffic, and 2) disabling Port Forwarding on the Firewall Port Forwarding panel for inbound traffic.

Use the following procedure to turn the firewall off.

1. On the WebShare Management Menu, click **Firewall**. The gray Firewall Security screen appears.
2. Click the option button for **Low**.
3. Click **Save** at the bottom of the screen.
4. Click the Port Forwarding link on the green tab. The green Port Forwarding screen appears.
5. Click the **Disable** option button.
6. Click **Save** at the bottom of the screen. Wait for the modem to restart.

Use the following procedure to turn the firewall back on.

1. On the Firewall Security screen, set the Security Level to High, Medium, or Custom.
2. Click **Save** at the bottom of the screen.
3. Click the Port Forwarding link on the green tab. The green Port Forwarding screen appears.
4. Click the **Enable** option button.
5. Click **Save** at the bottom of the screen. Wait for the modem to restart.



In order for the setting changes to take effect, wait for the modem to restart.



If you turn the modem off while a restart is in progress, changes will be lost. You do not need to turn the modem or your PC off and on.

THE WEBSHARE ABOUT PAGE

The About page provides the model number and version information for WebShare. This information is necessary when calling for technical support. (Sample data shown below--your information will vary.)

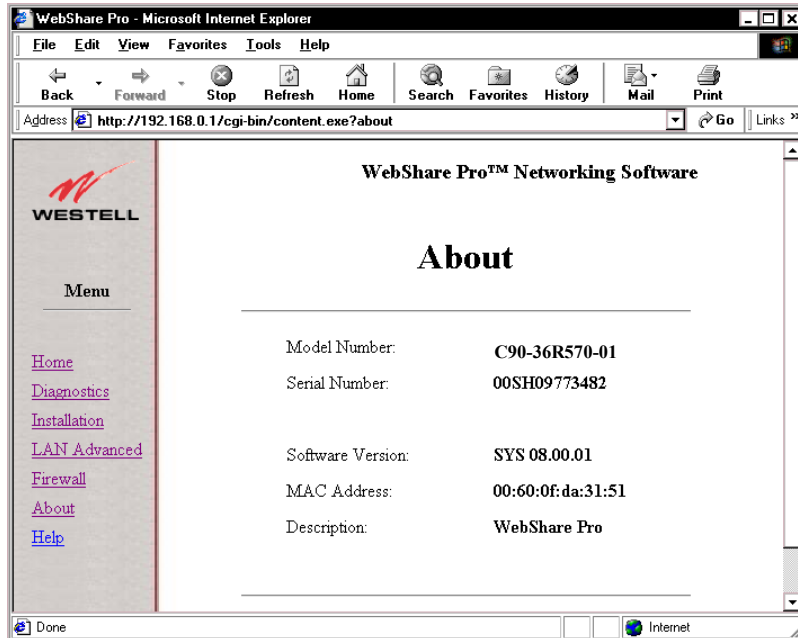


Figure 43. WebShare About Window (Actual data may vary.)

WEBSHARE HELP

The Help feature on the WebShare Management Menu is context-sensitive. Clicking Help will display information about the page you are currently on.

TROUBLESHOOTING

WebShare Error Messages

This section describes possible WebShare error messages and how to correct them. The figure below shows an example of an error message.

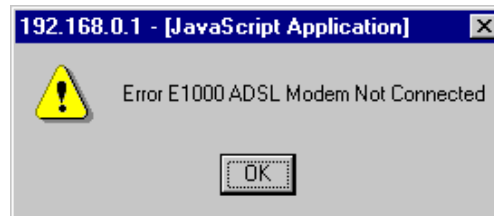


Figure 46. Example of Error Message

E1000 – WebShare Proxy Router Not Connected

Description: The WireSpeed Pro Proxy Router (ADSL Modem) has not achieved synchronization. The router may take several minutes to achieve synchronization.

Remedy: Check the DSL cables and connections. If all connections are correct and the problem persists, contact your service provider.

E1001 – Network Circuit Not Available

Description: The ATM virtual circuit has not been established within the ADSL Router.

Remedy: Contact your ISP.

E1002 – PPP Remote Access Server (RAS) Not Available

Description: There is no response from the RAS while attempting to activate a PPP account.

Remedy: Contact your ISP.

E1003 – Invalid Login

Description: An invalid User ID and/or password was used.

Remedy: Verify that the User ID is a valid account, then retry the password. Contact your ISP if this problem persists.

E1005 – IP Remote Router Not Available

Description: The remote router is not responding.

Remedy: Contact your ISP.

E1008 – Configuration Information Corrupt

Description: The PPP account or Advanced Configuration information is corrupt.

Remedy: Delete the PPP accounts and re-enter the account information and the Advanced Configuration information.

Resetting to Factory Default

To return Ethernet characteristics to the factory default, follow the WebShare Installation Utilities on page 11. On the Function Selection screen, choose option 3, **IP Reset Utility for WebShare**.

The following screen appears:

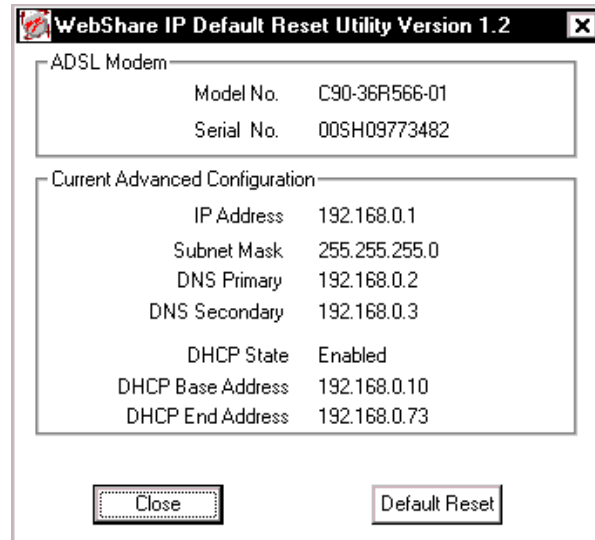


Figure 47. WebShare IP Default Reset Utility Dialog Box (Actual data may vary.)

1. On the **WebShare IP Default Reset Utility** dialog box, click the **Default Reset** button to restore the factory default values. The following message appears:

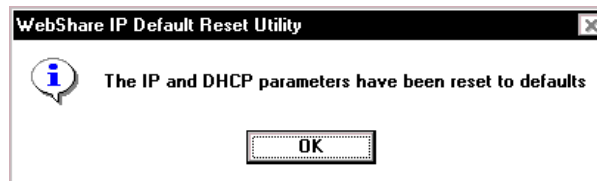


Figure 48. IP Default Reset Dialog Box

2. Click **OK** to return to the default settings.



To reinstall the WebShare software on the WireSpeed Pro modem, follow the WebShare Installation Utilities on page 11. On the Function Selection screen, choose option 1, “Download WebShare Modem Software” and follow the screen instructions.



PRODUCT ASSISTANCE AND GENERAL INQUIRIES

Product Return

For technical assistance, contact:

Westell Customer Support
750 North Commons Drive
Aurora, Illinois 60504

Phone: 1-630-375-4500
Fax: 1-630-375-4931

Web Address (Westell's Web Store): www.westell.com

Return Material Authorization (RMA)

DO NOT return damaged merchandise to Westell until you have first obtained a Return Material Authorization (RMA) from Westell. For return of material, contact your Westell Customer Support representative.

PRODUCT SPECIFICATIONS

DIMENSIONS

Height: 7.5 in (19 cm)
Width: 7.78 in (19.76 cm)
Depth: 1.9 in (4.82 cm)

WEIGHT

Approx. 2.30 lbs. (1.04 kg) with power supply

ENVIRONMENTAL

Ambient Operating Temperature +32 to +113°F (0 to +45°C)
Relative Humidity 5 to 95%, non-condensing

POWER SUPPLY

120 VAC (±10%) wall-mount power supply

POWER CONSUMPTION

Less than 10 watts typical from 120 VAC

CONNECTORS

POWER: 3-pin mini-DIN connector
LINE (DSL): 6-pin (RJ-11) modular jack
ETHERNET: 8-pin (RJ-45) modular jack

ETHERNET CONNECTOR PINOUT

An RJ-45 type that carries the Receive data on Pins 1 and 2, and the Transmit data on Pins 3 and 6

ETHERNET INTERFACE

Provides transmit and receive data paths for 10BaseT Network Connection.

LINE (DSL) CONNECTOR PINOUT

An RJ-11 type that carries combined ADSL and POTS signals on Pins 3 and 4.

DSL

DSL Line Code: Discrete MultiTone (DMT) (Alcatel)
DSL Rates: 32 kbps to 8 Mbps downstream and 32 kbps to 800 kbps upstream
Power Spectral Density: -40 dBm/Hz
DSL Impedance: 100 Ohms
DSL Performance: per G.992.1, ANSI T1.413. Upgradeable to G.992.2 (G.lite splitterless)

EMC

EMC/EMI:FCC Part 15 (Class B)
EN55022 (Class B)
EN50082-1

SAFETY

UL 1950 3rd Edition
cUL
EN60950

REGULATORY APPROVAL

UL
CSA
CE (Europe)

ROUTING

- Up to 253 users with a user supplied Ethernet hub
- Network Address Translation (NAT)
- Dynamic Host Control Protocol (DHCP) - Automatic or Manual Local Address Assignment
- DHCP Host Configuration
- DNS Proxy Implementation

FIREWALL

- Integrated configurable firewall
- Packet filtering
- Standard factory default levels (3)

TRANSPORT AND APPLICATION PROTOCOL SUPPORT

- TCP, UDP, ICMP, SMTP, NNTP, FTP, HTTP, HTTPS, SSL, DNS, PPTP
- RealAudio/Video, Microsoft NetMeeting, VDOLive, Win Frames, Xprotocol, H.323 (Over LAN environment), All direct play games
- Support for PPTP VPN tunnel through NAT router
- Bridge PPPoE from PC simultaneously with NAT router PPPoE session.

TRAFFIC MANAGEMENT

- PPP over AAL5
- Link Control Protocol
- CHAP and PAP Authentication
- IP Control Protocol (IPCP): RFC – 1332
- IPCP Configuration Options
 - IP Address Configuration
 - Preliminary and Secondary DNS
- Address Proxy (Patent Pending)
- PPP Echo Request-Reply
- Internet Control Message Protocol
- Router Advertisement /Solicitation
- ICMP Echo Request/Reply (Ping)
- ARP
- Path MTU Discovery
- DMZ Internet presence for servers

MINIMUM SYSTEM REQUIREMENTS

- Microsoft® Windows 95, Windows 98, Windows ME, Windows 2000, or Windows NT 4.0
- Microsoft® Internet Explorer™ 4.x or higher, or Netscape Navigator™ 4.x or higher
- 5 MB of free Hard Drive space
- Ethernet 10Base-T network interface card
- TCP/IP Protocol stack installed
- Multi-Port Ethernet 10BaseT Hub (optional)
- Crossover Ethernet cable for WireSpeed Pro Proxy Router to Ethernet Hub
- VPI/VCI Values (provided by your service provider)
- PPPoA/PPPoE support (provided by your service provider)
- 16 MB RAM

CONFIGURATION

- User configurable parameters include:
 - Account name and password
 - DHCP Function (Enable/Disable)
 - DHCP Base Address
 - Primary and Secondary DNS server address
 - Password (secret) - used to respond to CHAP/PAP challenges
 - True “Always On” - user can configure modem to remember password

APPENDIX

MAC AND LINUX SUPPORT

Computers running Apple Macintosh and Linux operating systems can be installed in a network that is using WireSpeed Pro by simply configuring the Macintosh or Linux PC to support DHCP. Once DHCP is enabled simply attach the computer to the network hub, launch the browser and begin surfing. To enable access to WebShare, launch the browser and enter the URL 192.168.0.1. Make this URL a favorite or a bookmark on the browser.

FIREWALL SERVICES SUPPORTED

The following tables describe the list of services allowed for Medium and High Security settings under the Firewall Port Forwarding feature.

Medium Security: List of Services Allowed

Table 7. Medium Security Services

Service Allowed	Protocol	Port Number
HTTP	TCP/UDP	80
FTP	TCP/UDP	20, 21
POP3	TCP/UDP	110
SMTP	TCP/UDP	25
Apple QuickTime	TCP/UDP	458
ICQ*	TCP/UDP	
QUAKE3	TCP/UDP	27960
AGE OF EMPIRE	TCP/UDP	
REAL AUDIO	TCP/UDP	
AOL INSTANT MESSENGER	TCP/UDP	
MSN MESSENGER	TCP/UDP	
Telnet	TCP/UDP	23
Microsoft Netmeeting*	TCP/UDP	
PPTP	TCP/UDP	1723
DNS	TCP/UDP	53
Quakell	TCP/UDP	27910
Unreal Tournament	TCP/UDP	
HTTPS	TCP/UDP	443
IMAP	TCP/UDP	143
IMAP v.3	TCP/UDP	220
NNTP	TCP/UDP	119

*Port Forwarding must also be configured for ICQ and Microsoft Netmeeting to function properly.

High Security: List of Services Allowed

Table 8. High Security Services

Service Allowed	Protocol	Port Number
HTTP	TCP/UDP	80
FTP	TCP/UDP	20, 21
POP3	TCP/UDP	110
SMTP	TCP/UDP	25
IMAP	TCP/UDP	143
IMAP v.3	TCP/UDP	220
DNS	TCP/UDP	53
HTTPS	TCP/UDP	443
NNTP	TCP/UDP	119

List of Services Supported by Port Forwarding

Table 9. Port Forwarding Services

Service Allowed	Protocol	Port Number
HTTP	TCP/UDP	80
FTP	TCP/UDP	20, 21
POP3	TCP/UDP	110
SMTP	TCP/UDP	25
Apple QuickTime	TCP/UDP	458
ICQ*	TCP/UDP	
QUAKE3	TCP/UDP	27960
AGE OF EMPIRE	TCP/UDP	
REAL AUDIO	TCP/UDP	
AOL INSTANT MESSENGER	TCP/UDP	
MSN MESSENGER	TCP/UDP	
Telnet	TCP/UDP	23
Microsoft Netmeeting*	TCP/UDP	
PPTP	TCP/UDP	1723
DNS	TCP/UDP	53
Quakell	TCP/UDP	27910
Unreal Tournament	TCP/UDP	
HTTPS	TCP/UDP	443
IMAP	TCP/UDP	143
IMAP v.3	TCP/UDP	220
NNTP	TCP/UDP	119

*Port Forwarding must also be configured for ICQ and Microsoft Netmeeting to function properly.

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FCC COMPLIANCE NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment also complies with Part 68 of the FCC rules. ON the bottom of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

An FCC compliant telephone cord and modular plug is provided with the equipment. This equipment is designated to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.

If this terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notification is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service.

If you experience trouble with this equipment do not try to repair yourself. The equipment can not be repaired in the field and must be returned to the manufacturer. Please contact: Westell Customer Support, (630) 375-4500. DO NOT return damaged merchandise to Westell until you have first obtained a Return Material Authorization from Westell. For return of material, contact your Westell Customer Support representative.

This equipment can not be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

CANADA CERTIFICATION NOTICE

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

A representative designated by the supplier should coordinate repairs to certified equipment. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.



Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.



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